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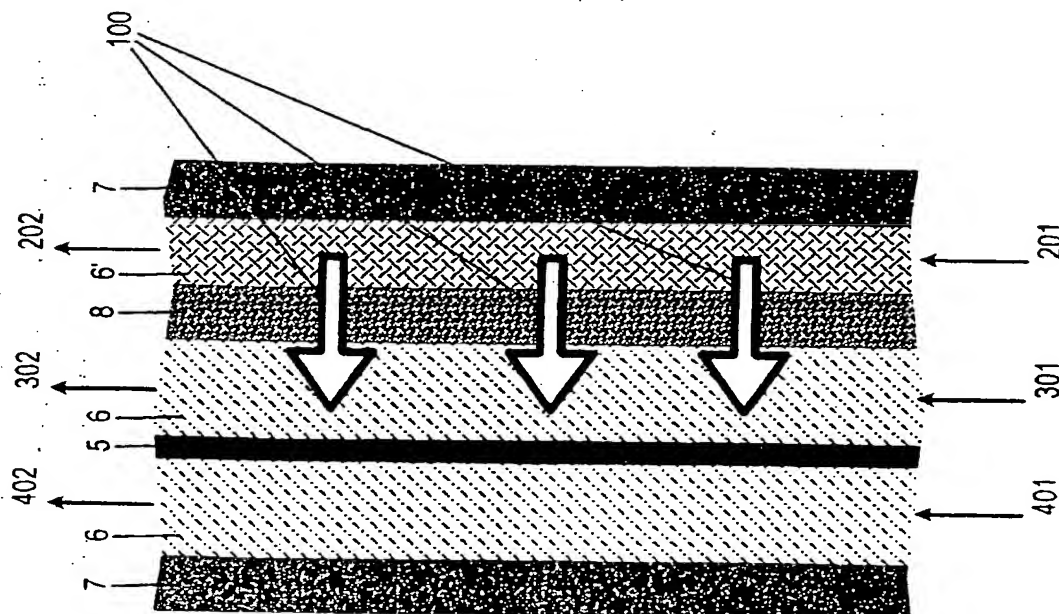
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(54) Title: **PEM FUEL CELL SYSTEM WITH COOLING AND INTERNAL HUMIDIFICATION**



(57) Abstract: An electrochemical generator consisting of an alternation of membrane fuel cells and cooling cells with internal circulation of liquid water is described. The fuel cells are fed in at least one of the two compartments, anodic or cathodic, with dry gas, which is humidified through the passage of water coming from the adjacent cooling cell through a metal porous separating wall. The permeated liquid water contributes to the withdrawal of the heat of reaction by evaporating at least in part inside the fuel cells.

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— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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# INTERNATIONAL SEARCH REPORT

International Application No.

PC1/EP 03/14264

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01M8/04

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>US 2001/033956 A1 (GAMBURZEV SERGUEY ET AL) 25 October 2001 (2001-10-25)</p> <p>paragraph '0011!</p> <p>paragraph '0015!</p> <p>paragraph '0025!</p> <p>paragraph '0075!</p> <p>paragraph '0077!</p> <p>paragraph '0081!</p> <p>paragraph '0096!</p> <p>paragraph '0112!</p> <p>paragraph '0114! - paragraph '0115!</p> <p>paragraph '0117!</p> <p>paragraph '0119!</p> <p>paragraph '0131!</p> <p>paragraph '0134!</p> <p>paragraph '0137!</p> <p style="text-align: center;">----- -/--</p>	1,5,14

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*S\* document member of the same patent family

Date of the actual completion of the international search

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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